Quiz # 3

Subject: Information and Communication Technologies (Theory)

Time Allowed: 20 Minutes

Total Marks: 15

Date: 27th November 2025

Question 1 (From Lecture 09: Cybersecurity) – [(CLO-2), (PLO-2), C2]

Topic: The CIA Triad and Cyberthreat Response

"The 'CIA Triad' (Confidentiality, Integrity, Availability) is the core framework for protecting systems. Consider a scenario where a university administration office is hit by a **Ransomware** attack, locking all student financial records until a fee is paid.

Part A (5 Marks): Analyze this specific attack and explain which component of the CIA Triad has been primarily compromised. Justify why it is this component and not the others.

Part B (5 Marks): Based on the 'Personal Hygiene' and 'Cybersecurity Tools' sections of the lecture, describe two specific preventative measures the university staff could have taken to avoid this breach."

Question 2 (From Lecture 10: DBMS) [(CLO-2), (PLO-2), C2]

Topic: Database Structuring and Relationships

"A small business is currently using a 'Flat-file Database' (a single spreadsheet) to track customers and the products they buy. They are facing issues with 'Data Redundancy' and 'Wasted Disk Space'. You are hired to convert this into a 'Relational Database'.

Part A (5 Marks): Explain how a Relational Database solves the issue of redundancy compared to a Flat-file system. In your explanation, use the terms 'Table', 'Common Field', and 'Relationship/Join'.